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SYSTEMS FOR PERFORMING MULTIPLE DIAGNOSTIC TESTS

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The present invention relates generally to systems for performing multiple diagnostic tests.

- In the medical arena, diagnostic testing is frequently performed to determine if a particular medical condition is present in a given patient. Diagnostic testing systems, which may be referred to as test kits, are manufactured to test for a wide variety of conditions in numerous types of biological test specimens, such as, for example, blood, tissue biopsies, and saliva. Such testing systems may be utilized to determine the presence of particular bacteria, such as *Helicobacter pylori*. Some tests that have been proposed to detect *Helicobacter pylori* include those that are disclosed in numerous U.S. Patents, including, for example, U.S. Patent No. 4,748,113 to Marshall, U.S. Patent No. 5,314,804 to Boguslaski et al., U.S. Patent No. 5,439,801 to Jackson, U.S. Patent No. 5,702,911 to Whalen, U.S. Patent No. 5,989,840 to D'Angelo et al., U.S. Patent No. 6,068,985 to Cripps et al., U.S. Patent No. 6,156,346 to Chen et al., and U.S. Patent No. 6,187,556 to Lee et al., each of such patents being incorporated in their entirety by reference herein.

Various embodiments of the present invention relate to a system for diagnostic testing that include a carrier having a first well and a second well. The

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carrier may also include a separator that permits the first well to be separated from the second well. The separator may be configured as an indentation, one or more perforations, or a depression formed in any surface or structure of the carrier.

- 5 A specimen-handling tool may also be included with the carrier. In some embodiments, the specimen-handling tool may be disposed about at least a portion of one of the first and/or second wells. Selected embodiments may include an overlying member that is positioned adjacent to the carrier so that the overlying member is disposed over at least a portion of one of the first or second wells. A plug may be disposed in at least one of the wells, the plug being attached to the
- 10 overlying member so that, when the overlying member is removed from the carrier, the plug is removed from the well.

- In selected embodiments, the specimen-handling tool may include a pair of cooperating arms. Each arm of the specimen handling tool may include a tip portion and a rear portion, the arms being joined to each other at their rear
- 15 portions to form a joined end. The tip portions may be variously formed, and may be formed as a flat surface, a point or a fork. Each arm may also include a rearward arcuate portion, a forward arcuate portion, and an intermediate arcuate portion, the intermediate arcuate portion being disposed between the rearward arcuate portion and the forward arcuate portion. The arcuate portions may be
- 20 configured so that the area disposed between the pair of arms is substantially hourglass in shape.

- Figure 1 is a perspective view of an embodiment of the system, carrier and specimen-handling tool of the present invention.
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Figure 2 is a perspective view of an embodiment of the carrier of the present invention.

- Figure 3 is a view of the bottom of an embodiment of the carrier of the present invention.
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Figure 4 is a side view of an embodiment of the carrier of the present invention.

Figure 5 is a top view of another embodiment of the carrier of the present invention.

5 Figure 6 is a perspective view of an embodiment of the specimen-handling tool of the present invention.

Figure 7 is a side view of an embodiment of the specimen-handling tool of the present invention depicted in Figure 6.

10 Figure 8 is another perspective view of an embodiment of the specimen-handling tool of the present invention.

Figure 9 is a top view of the embodiment of the specimen-handling tool of the present invention that is depicted in Figure 8.

15 Figure 10 is a perspective view of yet another embodiment of the specimen-handling tool of the present invention.

20 Figure 11 is a perspective view of still another embodiment of the specimen-handling tool of the present invention.

Figure 12 is a perspective view of another embodiment of the system, carrier and specimen-handling tool of the present invention.

25 Figure 13 is a cross-sectional view of the embodiment depicted in Figure 12, taken along line 13-13.

Figure 14 is a perspective cross-sectional view of the embodiment depicted in Figure 12, taken along line 14-14.

30 Figure 15 is a perspective view of another embodiment of the system of the present invention.